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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,073	10/21/2003	Tokihiro Shimura	4230-101	6700

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INTELLECTUAL PROPERTY / TECHNOLOGY LAW  
PO BOX 14329  
RESEARCH TRIANGLE PARK, NC 27709

EXAMINER
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MARCHESCHI, MICHAEL A

ART UNIT	PAPER NUMBER
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1755

MAIL DATE	DELIVERY MODE
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09/04/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/690,073	SHIMURA, TOKIHIRO	
	<b>Examiner</b>	<b>Art Unit</b>	
	Michael A. Marcheschi	1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5, 6 and 8-22 is/are pending in the application.
- 4a) Of the above claim(s) 12-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6 and 8-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

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The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-3, 5-6 and 8-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims, as amended (claim 1, specifically), now define that the amount of titanium is more than 0.1 weight percent. This aspect was never defined in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification clearly teaches that the titanium content is kept low and specifically mentions the amount of 0.1 weight percent or less. The specification never teaches higher amount of titanium. In view of this, the newly claimed amount of titanium is viewed as new matter.

Claims 1-3, 5-6 and 8-11 are also are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled

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in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims, as amended (claim 1, specifically), now recite a condition in terms of the powder having a substantially homogeneous composition throughout its volume (condition (5) in claim 1). The aspect was never defined in the specification, as originally filed, thus it is new matter. Any arguments as to this being inherent, as alleged in the response and declaration filed 6/26/07 will be commented on below in the response section.

Claims 1-3, 5-6 and 8-11 also are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims (claim 1, specifically), define the amount of silicon as being at least 0.8. A silicon content of at least 0.8 weight percent was never defined in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification clearly teaches that the silicon content ranges from 0.8 to 1.4. Since "at least" is open ended, this reads on any and all values above 0.8, including values well above 1.4. The specification never describes such amount of silicon (i.e. amounts more than 1.4).

Claims 1-3, 5-6 and 8-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claim 1 is indefinite as to the phrase “substantially homogeneous” because the examiner is unclear as to what this encompasses. What does substantially mean in this phrase?

Claim 5 is indefinite because the amount of titanium and aluminum are outside the scope of claim 1.

Claims 5 and 6 are indefinite because they depend on a canceled claim.

The other claims are indefinite because they depend on claim 1.

**For the purpose of the instant art rejection, the examiner interprets “composed of” to mean “consisting essentially of”**

Claims 1-3, 5-6 and 8 are rejected under 35 U.S.C. 102(b) as anticipated by Benjamin (486).

Benjamin teaches in the column 10, line 56-column 11, line 8 and column 13, lines 14-37, a material (powder) comprises stainless steel powder (can have a 10 micron average particle size and a maximum size of 20 microns) based on iron having a chromium content of 4-30% (claimed amount), up to 2% aluminum, up to 2% titanium and up to 5% silicon. Column 15, lines 35-40, column 16,, lines 1-3, column 16, lines 41-42 and lines 52-53 and claim 1, teach or imply that the powder has a homogeneous composition.

With respect to the abrasive limitation, applicants are claiming a “material” which the intended use does not carry any weight to the composition (see **In re Thuau 57 USPQ 324 (CCPA 1942)**). Any material possesses a property such that it may be used for a purpose. In addition, irrespective of what the material is called, the composition and is the same, thus no

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distinction is seen to exist. The primary reference teaches a stainless steel powder having the claimed amount of chromium and although all of the claimed characteristics of specific gravity and hardness are not literally defined, these characteristics are inherent because the material is the same (stainless steel with the claimed amount of chromium) and the same material is expected to yield the same results (i.e. claimed characteristics) in the absence of any evidence showing the contrary. With respect to the size values, the reference defines these characteristics.

Claims 9-11 are rejected under 35 U.S.C. 103(a) as obvious over Benjamin (486) in view of JP-55-148701 and further in view of JP 2002-256255, JP 2001-009727 and Kydd.

JP-55-148701 teaches in the abstract that stainless steel powders are known as blasting powders (abrasives)

JP 2001-009727 teaches in sections [0032]-[0034], that surface treating an inorganic powder (i.e. abrasive (stainless steel is an inorganic powder and thus an abrasive)) with the claimed material in an amount of 0.01-5% improves the performance of the abrasive.

JP 2002-256255 teaches in sections [0013]-[0015] that surface treating an abrasive (stainless steel) with the claimed material in an amount of 0.01-5% improves the performance of the abrasive.

Kydd teaches in column 8, line 66-column 9, line 6 that it is well known to surface treat metal particles with stearic acid (claimed substance) in order to prevent agglomeration (reason for using this material according to the instant specification on page 11, line 12).

Benjamin teach the claimed stainless steel powder, as is defined in the first prior art

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rejection. The use of this powder as a blast powder is obvious to the skilled artisan motivated by the fact that JP-55-148701 teaches that stainless steel powders are known to be used for this purpose. With this being obvious, it is the examiners position that it would have been obvious to surface treat the stainless steel particles according to Benjamin in order to optimize the performance of the abrasive by providing fluidity and preventing agglomeration, as shown by any one of (1) JP 2002-256255, (2) JP 2001-009727 and (3) Kydd. The agglomeration of blasting media is unwanted in order to eliminate the possibility of any larger particles being introduced during the blasting process which will result in producing much less than optimal results (i.e. surface scratching due to the larger particles). In view of this, any known way to prevent agglomeration and optimize the abrasive performance is clearly obvious to the skilled artisan.

Claims 1-3, 5-6 and 8 are rejected under 35 U.S.C. 102(b) as anticipated by JP 10-102105 (applicants cited).

The JP reference teaches in the abstract, a material (powder) comprises stainless steel powder based on iron having a chromium content of 7.5-30% (claimed amount), the claimed amount of titanium and the claimed amount of silicon and is absent boron and aluminum. Section [0006] teaches the size of the powder which reads on the claimed size.

With respect to the abrasive limitation, applicants are claiming a "material" which the intended use does not carry any weight to the composition (see **In re Thuau 57 USPQ 324 (CCPA 1942)**). Any material possesses a property such that it may be used for a purpose. In addition, irrespective of what the material is called, the composition and is the same, thus no

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distinction is seen to exist. The primary reference teaches a stainless steel powder having the claimed amount of chromium and although all of the claimed characteristics are not literally defined, these characteristics are expected and therefore obvious because the material is the same (stainless steel with the claimed amount of chromium) and the same material is expected to yield the same results (i.e. claimed characteristics) in the absence of any evidence showing the contrary. With respect to the size, the reference defines this. With respect to the condition (5) of claim 1 (substantially homogeneous composition throughout its volume), it is the examiners position that the reference powder can have these characteristics absent evidence to the contrary.

Claims 9-11 are rejected under 35 U.S.C. 103(a) as obvious over JP 10-102105, as applied to claim 1 above, and further in view of JP-55-148701, JP 2002-256255, JP 2001-009727 and Kydd.

JP 10-102105 teaches the claimed stainless steel powder, as is defined in the first prior art rejection. The use of this powder as a blast powder is obvious to the skilled artisan motivated by the fact that JP-55-148701 teaches that stainless steel powders are known to be used for this purpose. With this being obvious, it is the examiners position that it would have been obvious to surface treat the stainless steel particles according to Benjamin in order to optimize the performance of the abrasive by providing fluidity and preventing agglomeration, as shown by any one of (1) JP 2002-256255, (2) JP 2001-009727 and (3) Kydd. The agglomeration of blasting media is unwanted in order to eliminate the possibility of any larger particles being introduced during the blasting process which will result in producing much less than optimal results (i.e. surface scratching due to the larger particles). In view of this, any known way to



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prevent agglomeration and optimize the abrasive performance is clearly obvious to the skilled artisan.

The previous rejection based on JP-55-148701 has been withdrawn in view of the amendments to the claims. **However, since the claims contain new matter, as defined above (amount of titanium), the previous rejection based on this reference can be reinstated once the new matter is canceled from the claims.**

Applicant's arguments filed 6/26/07 have been fully considered but they are not persuasive.

With respect to the limitation in claim 1 that recites a condition in terms of the powder having a substantially homogeneous composition throughout its volume (condition (5) in claim 1), applicants state that this limitation would inherently be supported by the passages defined on page 12, lines 12-19, page 13, lines 8-15 and page 27, lines 14-21 as well as paragraph 15 of the declaration filed 6/27/07. This is not persuasive because the specification does not provide an adequate and a preponderance of evidence that would support applicants statement that the above limitation (for any and all compositions within the scope of broad claim 1) is inherent in the powder from the process defined. No clear evidence (i.e. data obtained from tests) has been submitted to support applicants positions. With respect to the declaration in paragraph 15, the statements made therein are overly broad conclusionary statements that lacks sufficient evidence to support said statements. In the absence of clear evidence to support applicants statements, the

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examiner does not see that this end result will be apparent for any and all compositions within the scope of the instant claims.

With respect to the rejection based on the amount of silicon (as being limited to exactly 0.8 weight percent). After further review of the instant specification, the examiner agrees that the amount of silicon should not be limited to exactly 0.8 weight percent, however, the amount of silicon defined in the specification is taught as 0.8-1.4 wt. percent. In view of this, the written description of the invention only provides support for this amount (0.8-1.4 weight percent). Applicants arguments appear to amount to the fact that the claimed invention should not be limited to exactly 0.8 weight percent. The examiner agrees (applicant is entitled to a range of 0.8-1.4 weight %). However, the claimed invention cannot be supported by the open ended range of at least 0.8 (i.e. reads on any and all values above 0.8 which ultimately include values well above the limit of 1.4 defined in the specification). Applicant appears to admit that the upper limit of the silica content defined in the specification is 1.4, thus this admission supports the examiners position taken above (i.e. silica content is limited to 0.8-1.4 weight percent) that the specification clearly does not support (lacks written description) any and all values commensurate in scope with the claimed limitation of "at least 0.8" (open ended means that values well above 0.8 (i.e. 30, etc.) are possible). Applicant appears to argue that the examiners conclusion is devoid of reasoning. The examiner has clearly defined reasoning in that the specification lacks a clear written description of any silicon value above 1.4. Applicant also apparently argues that the examiner has ignored the level of ordinary skill. This argument is not persuasive because applicant shows no evidence that the level of ordinary skill would reasonably determine that the scope of the silica content can be any and all values above 1.4. According to

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MPEP 2163, to satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention. Applicant does not show that the claimed limitation of “**at least 0.8**” (i.e. **any and all** values above 0.8) is defined in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention. When a range (open ended in this case) is claimed, there must be a reasonable written description for this range in the specification. Finally, applicants attention is directed to the MPEP 2163.05 that discusses ranges.

In summary, after further review of the instant specification, the examiner agrees that the amount of silicon should not be limited to exactly 0.8 weight percent, but rather the amount of silicon defined in the specification, which is 0.8-1.4 weight percent. However, since the claims are open ended with respect to the amount of silicon, the examiner respectfully requests applicant to show sufficient evidence as to why the open ended range of the claimed silicon amount (values above 1.4) is of knowledge to the skilled artisan and where clear support can be found in the specification, as originally filed.

With respect to the declaration filed 6/26/07, this declaration has been reviewed and is not convincing for the following reasons:

Sections 1-7 amount to the background of applicant.

Section 8 refers to the claimed invention, however, it should be noted that this section is deficient because the instant claims now define that the amount of titanium is more than 0.1 weight percent and not “not more than 0.1 weight percent”, as this section implies. In view of this alone, the declaration is not proper.

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Sections 9-14 define that the claimed invention should not be limited to exactly 0.8 weight percent and define an upper limit of 1.4. The examiner agrees that the amount of silicon should not be limited to exactly 0.8 weight percent, however, the amount of silicon defined in the specification is taught as 0.8-1.4 wt. percent, thus the amount is only limited to this. However, since the claims are open ended with respect to the amount of silicon, the examiner respectfully requests applicant to show sufficient evidence as to why the open ended range of the claimed silicon amount (values above 1.4) is of knowledge to the skilled artisan and where clear support can be found in the specification, as originally filed. Assuming *arguendo*, the declaration does not provide ample evidence that values above 1.4 are within the scope of the skilled artisan from reading applicants disclosure.

With respect to the declaration in paragraph 15, the statements made therein are overly broad conclusionary statements that lack sufficient evidence to support said statements. In the absence of clear evidence to support applicants statements, the examiner does not see that this end result will be apparent for any and all compositions within the scope of the instant claims.

With respect to the rejection based on Benjamin, applicant argues that this reference does not meet condition (5) of claim 1 because column 6, lines 47-62, column 10, lines 34-43 and column 11, lines 11-32 appear to teach away from this condition. This is not fully persuasive because is extremely clear from column 15, lines 35-40, column 16, lines 1-3, column 16, lines 41-42 and lines 52-53 and claim 1 that the composition is homogeneous and applicant does not provide a preponderance of evidence (i.e. comparative testing) that would support applicants position. In addition, the reference does not "teach away" from condition (5) because it never states that the composition is not homogeneous, but to the contrary, clearly teaches in the

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passages above a homogeneous composition. Finally and assuming arguendo about this, the claims state a “substantially homogeneous composition” and this does not suggest 100% homogeneity, thus a composition that is not fully homogeneous would still read on this.

Applicant also argues the hardness of this reference powder in that the hardness of the reference power is well above the claimed values. Applicant points to column 7, lines 43-45, column 8, lines 9-37 and examples 1 and 2 of the reference. The examiner acknowledges these passages, however, this is not definitive proof that any and all composition of this reference will not have the claimed harness especially since column 16, lines 53-54 defines a hardness 200-220. Although this hardness value is for a powder not containing titanium, the example shows that with an annealing treatment, the hardness is decreased from the argued values, thus the skilled artisan would have appreciated that the reference broad powders (one containing titanium) can have hardness values consistent with the examples when annealed at this temperature. In addition, the reference never literally states what the hardness value is for the broad composition as claimed, thus the passages defined by applicant does not provide ample evidence that the broad composition defined in column 13, lines 15-37 of the reference is not capable of achieving the claimed hardness. Comparative evidence has not been submitted to clearly show this. Column 8, lines 29-37 refer to the saturation hardness but do not specifically state what the hardness of the broad powder, as defined by the reference, is. In addition and assuming arguendo, it is stated that the saturation hardness frequently reaches these values and “frequently reaches” is not clear evidence that values lower can be achieved.

With respect to the other references used in combination with Benjamin, applicant argues these references alone. In response to applicant's arguments against the references individually,

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one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Finally, applicant appears to state that the examiner has not presented a clear line of reasoning supporting the rejection. The examiner disagrees because the examiner clearly identified the aspects of the invention that are inherent (applicants must prove otherwise) and obvious through clear motivational or reasoned statements.

Applicant's amendment (claims now specifically require titanium and the absence of boron and aluminum whereas the previous claims did not (proviso is not a specifically required limitation) necessitated the new ground(s) of rejection presented in this Office action.

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

8/07  
MM

  
Michael A. Marcheschi  
Primary Examiner  
Art Unit 1755